

## **PERFORMANCE EVALUATION OF DMI ALGORITHM IN W-CDMA FDD UPLINK**

**CH. SANTHI RANI, P. V. SUBBAIAH AND K. C. REDDY**

### **Abstract**

Wideband Code Division Multiple Access (W-CDMA) has been widely accepted as the radio access scheme for third generation (3G) wireless system known as International Mobile Telecommunications-2000 (IMT-2000). One of the main objectives of IMT-2000 is to support high and widely variable data rate users with high quality and achieve enhanced system coverage and capacity. Most time-reference beamforming algorithms suffer from severe beampattern distortion effects when applied to high bit rate services in WCDMA, causing serious performance degradation in terms of out Bit Error Rate, especially at high input SINR levels. These shortcomings are essentially caused by the uplink multiplexation of the traffic channel, which is seen by the base station as a powerful interfering source causing from the direction of arrival of the desired user.

In this work, the performance evaluation of DMI algorithm which is a reference signal based adaptive beamforming algorithm is carried out for AWGN and Specular time varying channels at different data rates.

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**Keywords:** DMI algorithm, WCDMA, Adaptive beamforming, AWGN channel, Time varying channel